



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460**

**OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES**

ORIGINAL SIGNED 11-29-04

Memorandum

From: Michael Patterson, Ph.D
Environmental Field Branch
Field and External Affairs Division

To: Arthur-Jean Williams, Chief
Environmental Field Branch
Field and External Affairs Division

Subject: Effects Determination for Lindane for Certain Pacific Anadromous Salmonids

I reviewed data and other information for Lindane, a registered insecticide named by the Washington Toxics Coalition (WTC) and included in the court order for 'effects determinations' and potential consultation with the National Marine Fisheries Service.

Lindane is registered nationally for use as a seed treatment on barley, corn, oats, rye, sorghum, and wheat. It is most effective against wireworm and, less effectively flea beetles, seed corn maggots, seed corn beetles, and white grubs. It is also a component of prescription pharmaceuticals, regulated by the U.S. Food and Drug Administration. There are no other registered residential applications.

I have adapted the more general findings of the EFED assessment to develop an analysis of the potential for effects on endangered and threatened Pacific salmon and steelhead Evolutionary Significant Units (ESUs) from current uses in California and the Pacific Northwest. My analysis addresses changes in uses and rates that have been put on labels since the RED was developed. OPP's levels of concern are exceeded for direct acute risks and chronic risks from some uses to endangered fish. Some uses also exceed criteria for populations of aquatic invertebrates that may be food for fish. Levels of concern are not exceeded for risk to aquatic vascular plants that may serve as cover for fish.. There are a number of mitigating factors that reduce many, but not all concerns.

Based upon the available information, I determined that some use of Lindane on crop

sites may affect 8 ESUs under labeled application directions, may affect but is not likely to adversely affect 11 ESUs, and will have no effect on 7 ESUs. Potential effects that occur are most likely in breeding and rearing areas.

attachment:

Lindane: Analysis of Risks to Endangered and Threatened Salmon and Steelhead
(with attachments)